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of the resonance chambers, and the habit of placing the tone properly is formed. The interference is removed by first singing that vowel sound at which the position of the throat is least disturbed. The vowel *ee* is chosen because the pronunciation requires little moving of the jaw. This vowel is later combined with such consonants as *l*, *b*, *m*, and *g*, which also require little use of the jaw and much use of the lips and tongue. The thought of the singer is concentrated on the use of the tongue and lips as a means of removing interference, not on the relaxed position of the throat and the lowered jaw. The vocal cords are involuntary muscles and will therefore take care of themselves if let alone; but as soon as one tries to make them do something the involuntary muscles are affected and as a result interference sets in.

Dr. Muckey emphasizes the use of the resonance chambers. The natural method eliminates the value of the breath as a sustainer of tone and makes it an insignificant factor in voice production. This method then excludes two elements of singing which unquestionably mar the effect on the audience: labored breathing, and the ugly position of a lowered jaw and a very wide-open mouth.

This book if widely circulated will exert a powerful influence on the various methods of teaching singing now used. *The Natural Method of Voice Production* should be in the library of every student and teacher of voice.

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*The Industrial and Commercial Schools of the United States and Germany.*

A Comparative Study. By FREDERICK WILLIAM ROMAN. New York: Putnam, 1915. Pp. vi+382.

There would seem to be nothing to prevent the English reader from gaining a reasonably complete understanding of the educational system of Germany as it stood before the great war. Professor Roman's book is a distinct and valuable addition to the available literature of that subject. The book, therefore, will be read with interest and gladly received into a place in the library of the student and the general reader beside Dean Russell's *German Higher Schools*, Paulsen's *German Education*, Farrington's *Commercial Education in Germany*, Bolton's *Secondary-School System of Germany*, Klemm's *Public Education in Germany and in the United States*, Winch's *Notes on German Schools*, and Kandel's *Training of Elementary-School Teachers in Germany*.

The volume now under review makes it clear that, upon the whole, the organization of industrial and commercial education in Germany suggests contrasts rather than resemblances, when brought into comparison with the situation in the United States. This is seen in the fundamental attitude of the two countries in reference to education in general. Germany apparently rests her whole educational scheme upon the proposition that it is important to find out early "what a lad is to do, and to train him specifically for that line of work and for no other." At every level at which it is permitted pupils to leave the

general school, opportunity is provided whereby they may enter upon a course of distinctly commercial or industrial education. These points of departure are: (1) at the completion of the eight-year elementary school; (2) at the end of the sixth year in a secondary school; (3) at the end of the ninth year of the secondary school. In almost the whole of the German Empire school attendance is compulsory from six to fourteen years of age. Up to this time the pupil has received no vocational training whatever. The eight years of the elementary school represent in the German view the irreducible minimum of general education which the state insists upon for every child. But when the boy completes his elementary-school course, at fourteen, he may find a position with a business or industrial concern. Here he spends a part of every week at work. The other portion of the week he devotes to attendance at a continuation school. In twelve of the twenty-six states of the empire such school attendance is required from fourteen to eighteen years of age, unless the boy is attending some other educational institution.

As a prerequisite for the pursuit of such industrial or commercial training as the continuation school affords, the German elementary school is held to be distinctly superior to the American "with reference to the time spent in school, the grade at which the pupils leave school and the thoroughness with which the subject matter is mastered, the goal of the school itself, and its organization and teaching staff."

Professor Roman traces the history of the continuation school from its origin in the Sunday schools in 1589, because of the view of the church that the moral and religious welfare of the state demanded that it supplement the insufficient influence of the home, to its present expansion to every part of the empire, as an agency for promoting the industrial and commercial supremacy of Germany. Matters of internal organization, types of curricula, sources of support, regulations regarding attendance, and the system of governmental control are explained in detail. A separate chapter is devoted to an account of the continuation schools for girls.

Next higher than the continuation school is the trade school, *Mittlere Fachschule*, established to train workmasters of large factories and independent managers of smaller concerns and also those foremen of the larger manufacturing plants and the employers and higher officials of the smaller factories who may wish to understand and to pursue the latest advances in technique independently. Completion of the six years' work in a *Gymnasium* or *Realschule* is prerequisite to entrance. The course requires the full time of the pupils for two or three years. The rapid increase in the number of these schools has awakened alarm and occasioned organized opposition on the part of technical industrial officials who fear a flooding of the market with skilled workmen and a consequent depression of wages.

For purposes of comparison of industrial education in Germany with that of the United States, a chapter is given descriptive of sixteen endowed industrial schools in this country. Here again contrasts are more numerous than

resemblances. In America private initiative, support, and control perform the functions which in Germany are exercised by the government. Within about twenty years the endowments of these schools in the United States have aggregated \$16,978,000. Germany presents no parallel to this. A comparison of the two systems as to the age of pupils, the educational qualifications, and the training received is, upon the whole, favorable to Germany. That country, however, it appears, offers no such opportunities as America for personal advancement after the training has been received.

Whereas organized industrial education has existed in the United States for only about two decades, commercial education had its beginnings fifty years ago. Since that time it has been carried on almost exclusively by private enterprise. The schools have been of the widest range of goodness and badness. Upon the whole, they have commanded comparatively slight regard from either the educational or the business world. At present, however, the case is quite different with the commercial high schools, the commercial departments of general high schools, and the schools of commerce organized in colleges and universities. The reaction of these upon the commercial colleges has been salutary, but even now private enterprise largely controls. In Germany, however, commercial education is systematized and controlled by a department of the central government, and its relation to general education is analogous to that of industrial education. Prerequisites, curricula, standards of attainment, sequent avenues to employment are all defined, and it is seen that "commercial education and the commercial world stand in a much closer relation" than with us. In the United States a period of transition is now in progress. It arises from a general dissatisfaction with the organization, curricula, and final results of the schools that are supposed to educate the masses. There is a disposition to look to Germany for ideals and models. Professor Roman devotes the closing chapters of his book to tracing this transition, comparing the schools of the two countries as to organization and control, and discussing the economic value of industrial and commercial education.

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*A Beginner's Psychology.* By E. B. TITCHENER. New York: Macmillan, 1915. 12mo, pp. 362. \$1.00.

Professor Titchener prefaces his new book with the statement, "I have tried to write, as nearly as might be, the kind of book that I should have found useful when I was beginning my own study of psychology . . . nearly thirty years ago." In view of such an aim one approaches this book with considerable interest and respect, for if there is anyone who should have developed decidedly expert opinion about the requirements of a textbook in psychology it should be Professor Titchener, by virtue of his brilliant contributions to the field during the past twenty years.